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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	10/604,093
				Filing Date	06/25/2003
				First Named Inventor	Chia-Fu Chang
				Art Unit	2875
				Examiner Name	
Sheet	1	of	1	Attorney Docket Number	ELUP0003USA

Examiner Signature _____ **Date Considered** _____

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 15 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

RECEIVED
CENTRAL FAX CENTER5 Applicant: Chia-Fu Chang
Filing Date: 06/25/2003
Serial No.: 10/604,093Art Unit: 2875
Docket No.: ELUP0003USA

JUL 27 2004

OFFICIAL

10 Title: LED LIGHT SOURCE HAVING A HEAT SINK

To: Commissioner for Patents
P.O. BOX 1450
Alexandria, VA 22313-1450

15

Subject: Information disclosure statement Under
37 C.F.R. §1.56.

20 Dear Sir:

This is an Information Disclosure Statement in accordance with the duty to disclose information material to patentability under 37 C.F.R. §1.56. The Applicant wishes to make of record the document listed on the accompanying form PTO/SB/08. It is respectfully requested that the Examiner initials the cited reference on the form and that it be made of record in the application and that a copy of the initialed form be sent to the Applicant with the next communication from the Examiner.

Since the IDS is filed before the mailing date of a first

Office action on the merits, consideration of the information disclosure statement is hereby requested according to 37C.F.R. §1.97(b). The prior art patent contained in the information disclosure statement is cited in a communication 5 from the Taiwan Intellectual Property Office on Apr.27, 2004. The Applicant sincerely hopes that the Examiner can consider the item contained in the information disclosure statement.

According to the requirement set forth in 37C.F.R. §1.98, 10 the Applicant is submitting copy of the cited reference (Taiwan Patent Nos. 446197) and a concise explanation of the relevance in this application hereinafter.

TP No. 446197 discloses an LED device comprising a heat sink, a concavity installed on the heat sink, at least one LED chip set up within the concavity, a print circuit board set up on the heat sink, and the LED chip being fixed on the heat sink directly or fixed on the heat sink by inserting a sub-mount between the LED chip and the heat sink, wherein the 15 sub-mount is capable of transmitting the heat generated by the LED chip to the heat sink. In view of Fig.2A, 2B, 2C, 2E, 20 4B, and 6A, it is very obvious that the LED chip is set up within a concavity.

25 The amended claim 1 of the present invention is repeated below.

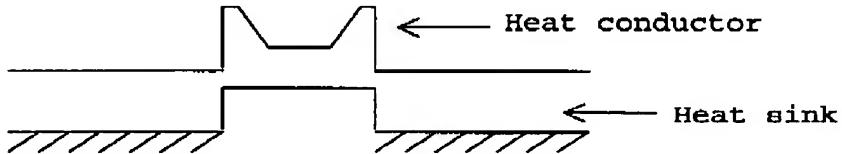
1. A light emitting diode (LED) light source comprising:
30 a printed circuit board (PCB) having a plurality of holes;
a heat sink connected under the PCB for conducting heat;
a plurality of heat conductors protruding the heat sink
upward and formed on the heat sink corresponding to

each hole of the PCB for conducting heat, each heat conductor having a basin on the topside; and at least one LED chip attached to the basin of the heat conductor.

5

Compared with TP No. 446197, the heat conductors comprised in the present LED light source protrude the heat sink, while the LED chip is set up within a concavity in TP No. 446197. The heat sink and the heat conductors of 10 the claimed invention can be formed by pattern flood upward. The illustration below is a simple description.

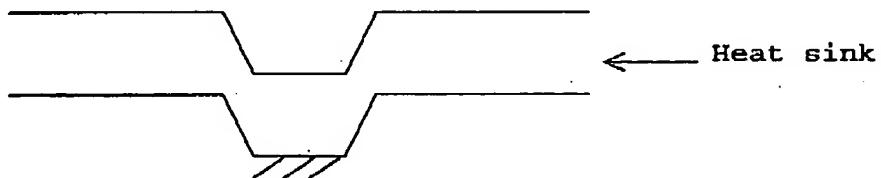
15



The oblique lines on the illustration represent the area of 20 the claimed heat sink that contacts the lampshade, assuming the area is A.

In TP No. 446197, if the concavities are formed by etching or carving, the cost will be very high. However, if the 25 concavities in TP No. 446197 are formed by pattern flood as well, the heat sink will protrude the heat sink downward. The illustration below is a simple description.

30



The oblique lines on the illustration represent the area of
the cited heat sink that contacts the lampshade, assuming the
5 area is B.

Comparing the two illustrations above, it is obvious that
the area B is smaller than the area A. That is, the contacting
area between the heat sink and the lampshade in the claimed
10 invention is larger than that in TP No. 446197. The larger
contacting area between the heat sink and the lampshade, the
better the heat sink can transfer heat further. Therefore,
it is very obvious that the heat sink of the present invention
is not only different from the heat sink in TP No. 446197,
15 but the effect of heat conduction is improved in the present
invention as well.

Respectfully Submitted,

20

Winston Hsu

Date: 7/27/2004

Winston Hsu, Patent Agent No. 41,526

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25 Merrifield, VA 22116

U.S.A.

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(Please contact me by e-mail if you need a telephone
communication and I will return your call promptly.)

30

27-07-'04 16:30 從- WINSTON HSU, NO. 41526 8064986673

T-895 P01/23 U-085
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INTERNATIONAL PATENT OFFICE**

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FROM: Winston Hsu, PATENT AGENT, REG. NO. : 41,526

SERIAL NO.: 10/604,093

ATTORNEY DOCKET NO.: ELUP0003USA

**SUBJECT: PRELIMINARY AMENDMENT &
INFORMATION DISCLOSURE STATEMENT**

TOTAL PAGES: 23 PAGES (INCLUDING COVER PAGE)

Winston Hsu 2004/07/27

ELUP0003USA0_D1,A3_1

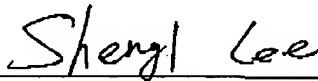
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APPLICATION NUMBER: 10/604,093

PAPERS INCLUDED:

(1) Transmittal Form	1 PAGE
(2) Fee Transmittal	1 PAGE
(3) Preliminary Amendment	4 PAGES
(4) Information Disclosure Statement	15 PAGES

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PTO/SB/21 (08-03)

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TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>		Application Number 10/604,093
		Filing Date 06/25/2003
		First Named Inventor Chia-Fu Chang
		Art Unit 2875
		Examiner Name
Total Number of Pages in This Submission 21		Attorney Docket Number ELUP0003USA

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Winston Hsu, Reg. No.: 41,526
Signature	<i>Winston Hsu</i>
Date	7/27/2004

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Signature	Date	

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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

 Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$0.00)

Complete if Known

Application Number	10/604,093
Filing Date	06/25/2003
First Named Inventor	Chia-Fu Chang
Examiner Name	
Art Unit	2875
Attorney Docket No.	ELUP0003USA

METHOD OF PAYMENT (check all that apply)

 Check Credit card Money Order Other None
 Deposit Account:

Deposit Account Number	50-3105
Deposit Account Name	North America Intellectual Property Corp.

The Director is authorized to: (check all that apply)

-
- Charge fee(s) indicated below
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- Credit any overpayments
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- Charge any additional fee(s) or any underpayment of fee(s)
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-
- Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1) (\$0.00)			

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Independent Claims	Extra Claims	Fee from below	Fee Paid
		-20** =	X	=
		-3** =	X	=

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid
1204 86	2204 43	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent
SUBTOTAL (2) (\$0.00)		

** or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES
Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 146	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 666	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1805 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.128(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination or a design application	
Other fee (specify)			
*Reduced by Basic Filing Fee Paid		SUBTOTAL (3) (\$0.00)	

(Complete if applicable)

Name (Print/Type)	Winston Hsu	Registration No. (Attorney/Agent)	41,526	Telephone 886289237350
Signature		Date	7/27/2004	

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